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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,366	09/10/2004	Cydney Minkowitz	KARAGHIOSOFF	7131
7590 James C Wray 1493 Chain Bridge Road Suite 300 McLean, VA 22101			EXAMINER TRAN, DALENA	
			ART UNIT 3664	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/505,366

Applicant(s)

MINKOWITZ ET AL.

Examiner

Dalena Tran

Art Unit

3664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/3/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-14 are pending.

The prior art submitted on 12/03/04 has been considered.

The copy of foreign priority document (Italy SV2002A000009 2/22/02) has not been received. The document needs to submit for considering.

In claim 1, **from the last sentence, count up** to line 8, a period in front of "according" should be deleted.

Objection

2. The abstract of the disclosure is objected to because more than 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claim 1, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Regarding claim 1, the phrase "i.e." renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 1 recites the limitation "the station diagram" in line 12. There is insufficient antecedent basis for this limitation in the claim.

Claim 12, is rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. The last sentences "that may be recalled at will with a method as claimed in claim 1", the claim indefinite because it is unclear what applicant mean "recalled at will with a method as claimed in claim 1". Also, it is unclear that claim 12 is an apparatus or method claim, because in preamble is an apparatus claim, but the last sentences "recalled at will with a method as claimed in claim 1". Correction for all the above is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, and 7-14, are rejected under 35 U.S.C.103(a) as being unpatentable over Pal (3691370) in view of Tsuruta et al. (4926343).

As per claims 1, and 12, Pal discloses a method of generating logic control units for railroad Station-based Vital Computer Apparatuses, for railroad station system control units comprising at least one vital computer which, on the basis of a control program operating in combination with a logic unit, sends state switching controls to so-called yard elements, devices that are designed to perform specific train circulation-related operations, such as signaling devices and/or railroad switches and/or track circuits, or the like, and receives state feedback and/or diagnostic signals from said yard elements (see the abstract), logic unit being generated

automatically by a program, on the basis of the surrounding conditions as defined by the station diagram, comprising the list of yard elements, and by a state table, wherein state assuming and/or state switching rules are settled for yard elements, with reference to state and/or to state switching of the other yard elements and/or to the proper management of railroad traffic (see columns 3-4, lines 18-28), logic unit being a network of circuits with components operating according to Boolean logic functions and appropriately structured in compliance with the station diagram and with the state table, or logic control unit being a program which includes algorithms composed of Boolean logic functions, which operate like networks of Boolean logic circuits, wherein it includes a step for checking the correctness of the automatically generated logic unit (see columns 5-6, lines 34-7), which check step includes the following steps: parallel generation of two logic control units, according to the same station diagram and the same state table, each unit being generated by one of the two generation programs which are as different as possible from each other (see columns 3-4, lines 18-27). Pal does not disclose comparison between the networks of logic circuits or the network-simulating logic programs. However, Tsuruta et al. disclose comparison between the networks of logic circuits or the network-simulating logic programs provided the two different generation programs to check for structural differences therebetween (see columns 5-6, lines 20-57; columns 7-8, lines 46-65; and columns 9-11, lines 56-19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Pal by combining comparison between the networks of logic circuits or the network-simulating logic programs for generating and correction or regulating a train schedule or switching control operation.

As per claim 2, Pal discloses when an identity is achieved, the correctness of the networks of logic circuits or of the generated logic program is deemed to be checked (see columns 7-8, lines 38-67).

As per claim 3, Pal discloses when the two logic programs are found to be non-identical, an error checking steps is performed, and the steps of parallel generation of the networks of logic circuits and/or network simulating virtual logic programs are repeated (see column 9, lines 1-67).

As per claim 4, Pal does not disclose the difference between the two generation programs relates to their languages or to the programming environments wherein they were written. However, Tsuruta et al. disclose the difference between the two generation programs relates to their languages or to the programming environments wherein they were written (see columns 3-4, lines 32-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Pal by combining the difference between the two generation programs relates to their languages or to the programming environments wherein they were written for generating and regulating of train control operations.

As per claim 5, Tsuruta et al. disclose the two different generation programs use different generation algorithms (see columns 4-5, lines 36-19).

As per claims 7-8, Tsuruta et al. also disclose includes a step for preparing a knowledge base containing station diagram related data and state table related data which are coded in such a manner as to be discernible by both generation programs, wherein one or both generation

programs include a pre-generation step, in which the knowledge base data is checked for consistency and correctness of both data structure and meaning (see columns 11-12, lines 20-68).

Also, as per claims 9, and 14, Tsuruta et al. disclose includes a program for comparing the logic programs and/or the networks of logic circuits generated by the two generation programs, which comparison program is separated from the generation programs, and wherein the section for generating the control and monitoring logic program comprises at least two different generation programs, for generating comparable control and monitoring logic programs which are loaded, after a successful identity check, in the memory of the Vital Computer Stationary Apparatus and are interfaces with the section of general procedure-oriented programs (see columns 5-6, lines 20-57; columns 7-8, lines 46-65; columns 9-11, lines 56-20; and columns 13-14, lines 3-7).

As per claim 10, Pal discloses the two generation programs generate the logic programs with the following procedure: generation of networks of logic circuits which use logic hardware components (see columns 3-4, lines 18-27); conversion of the networks of logic circuits so generated into logic algorithms composed of sets of Boolean equations whose behavior correspondence to that of said networks of logic circuits (see columns 6-7, lines 8-36).

As per claims 11, and 13, Pal does not disclose logic circuits and/or logic programs are to be changed to be adapted to changes of the station system diagram and/or of the state table. However, Tsuruta et al. disclose logic circuits and/or logic programs are to be changed to be adapted to changes of the station system diagram and/or of the state table, and the section for generating the control and monitoring logic program constitutes a section for changing and/or

updating control and monitoring logic program (see columns 15-16, lines 1-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Pal by combining logic circuits and/or logic programs are to be changed to be adapted to changes of the station system diagram and/or of the state table for controlling train operation system.

6. Claim 6, is rejected under 35 U.S.C.103(a) as being unpatentable over Pal (3691370), and Tsuruta et al. (4926343) as applied to claim 1 above, and further in view of Wilson, Jr, et al. (5463552).

As per claim 6, Pal, and Tsuruta et al. do not disclose two different neural networks. However, Wilson, Jr, et al. disclose the two different generation programs are two different neural networks (see columns 7-9, lines 63-12; columns 10-11, lines 55-36; and columns 12-13, lines 42-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Pal, and Tsuruta et al. by combining two different neural networks for automated train control system.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

. Parker (5050823)

. Mister et al. (5053964)

. Metel et al. (5751569)

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 571-272-6968. The examiner can normally be reached on M-W (in a first week of a bi-week), and T-R (in a second week of bi-week) from 7:00AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent Examiner
Dalena Tran



November 21, 2007